AMENDMENT TO THE CLAIMS

1. (Currently Amended) System for determining a position of a transponder, which transmits a signal and moves along a route with at least a measuring station comprising antenna means for receiving said signal at least at two measuring points positioned at the two outer points of a line segment which crosses the course in a perpendicular manner, ~~whereby~~ wherein said measuring station comprises:

- a first receiver for receiving said signal through said antenna means at the one measuring point,
- a second receiver for receiving said signal through said antenna means at the other measuring point,
- high frequency phase measuring means measuring the phase difference between the output signal of the first receiver and the ~~outputsignal~~ output signal of the second receiver,
- evaluation means which, based on the measured phase difference, determines where the transponder passes said line segment.

2. (Currently Amended) System according to claim 1, ~~characterized in that~~ wherein the transponder transmits a modulated signal, that the first receiver is followed by a first demodulator for demodulating the received signal, that the second receiver is followed by a second demodulator for demodulating the received signal, and that low frequency phase measuring means measure the phase difference between the output signal of the first demodulator and the output signal of the second demodulator.

3. (Currently Amended) System according to claim 2~~1 and 2~~, ~~characterized in that~~ wherein the evaluation means use the output signal of the low frequency phase measuring means for ~~"coarse"~~ coarse position determination whereas the output signal of the

high frequency phase measuring means is used for ~~"fine"~~fine position determining.

4. (Currently Amended) System according to ~~one of the claims 2 or 3~~claim 2, ~~characterized in that~~ wherein the modulated signal is obtained by amplitude modulation whereby the modulation signal is a pulse series by means of which the amplitude of the carrier wave is modulated between 0% and 100%.

5. (Currently Amended) System according to claim 1, ~~characterized in~~ wherein that between both ends of said line segment another N measuring points are ~~realised~~ realized such that the line segment is divided by N+2 measuring points into N+1 segments each having a length which is small enough to ~~realise~~ realize an unambiguous measurement within said segment, whereby the N+2 measuring points are connected to N+2 receivers, the output of each of said receivers is connected to a field strength measuring means, the output signals of all field strength measuring means are evaluated in a comparison circuit, which comparison circuit transfers the output signals of those two receivers having together the largest field strength, to a phase comparator to be mutually compared whereafter the resulting output signal of the phase comparator controls an evaluation unit.

6. (Currently Amended) System according to ~~one of the preceding claims 1-4~~claim 1, ~~characterized in that~~ wherein the system comprises an elongated loop antenna ~~consisting of~~ comprising two parallel antenna conductors extending a short mutual distance and having a length equal to the length of said segment, which antenna conductors are connected at their ends where the measuring points are formed.

7. (Currently Amended) System according to claim 5, ~~characterized in that~~ wherein the antenna is built as a series circuit of N+1

small loop antennas each comprising two parallel antenna conductors extending at short mutual distance of which the ends are interconnected, which loop antennas are in length direction coupled to each other.

8. (Currently Amended) System according to claim 1~~one of the preceding claims~~, ~~characterized in that~~ wherein the measurement is repeated a number of times in a row, whereafter the results are interpolated such that from the results the track can be derived which was followed by the transponder within said coarse.